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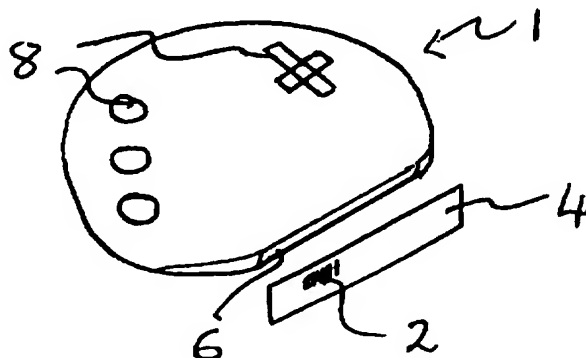United Kingdom

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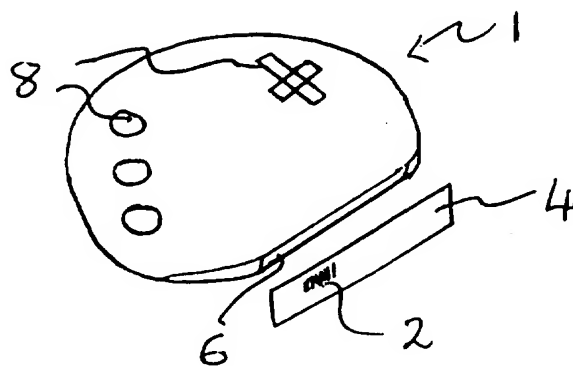**F2Y** YTB Y108 Y3112 Y3121

(56) Documents Cited
US 5212368 A

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(54) Abstract Title
Video game controller with barcode scanner

(57) A video game controller 1 includes a barcode scanner 6 for scanning barcodes 2 printed on tins, boxes, bottles, books or magazines, the barcodes permitting access to game features such as hidden levels, secret rooms, extra energy or a change of weapon. Magnetically and ultrasonically scanned codes may be used.

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The claims were filed later than the filing date within the period prescribed by Rule 25(1) of the Patents Rules 1995

SOFTWARE ACCESS DEVICE AND SYSTEM

The present invention relates to a software access device and system and is particularly, but not exclusively, applicable to electronic game apparatus.

Currently video games console manufacturers' make very little profit from the sale of video game console hardware. Substantial profits are however made from the resultant multiple software sales. Most video game hardware manufacturers also develop and distribute their own software, however the vast majority of their profits come from licensed third party publishers. Third party publishers design, develop and market their own video games. These games are purchased by the consumer and displayed via the designated proprietary hardware device. In return for allowing the third party software publisher the opportunity to address the consumer user base, the hardware manufacturer receives a royalty on every unit of software that is sold. Currently, hardware manufacturers and third party publishers do not really gain substantial financial benefit through advertising sponsorship, although attempts are made in a limited way. In general, advertisers would only be interested in sponsoring a product that has major mass market potential.

The present invention has been made from a consideration of such limitations in the relationships between hardware and software producers and advertisers.

A preferred object of the present invention is to provide an apparatus and system which facilitates the introduction of an advanced form of interactive advertising to the consumer and brings new revenue into the video games business. The system involves the

commercialisation of software such as video games and/or real-time interactive video programmes that may be delivered to the consumer by any suitable means such as CD-ROM, Game Cartridge, or the Internet via a conventional hardware system.

A further preferred object of the invention is to provide an apparatus and system which directly links video games software advertisers and their associated products. This new and powerful link encourages advertisers to subscribe to or sponsor video games bringing substantial new revenues to both console manufacturers and third party publishers. Furthermore, the invention provides an enormously creative tool for game designers, programming teams and advertising agencies' to work with. The end result being highly entertaining, high quality software, incorporating a new style of extremely addictive interactive gameplay that will appeal to all age groups whilst further increasing revenues to all parties.

According to a first aspect of the invention there is provided a device for interactively controlling and accessing software comprising control means adapted to be activated by the user to control the software and access means adapted to scan an access code and allow access to a predetermined part of the software in response to a predetermined access code.

The invention further provides apparatus for playing a game comprising a computer adapted to run an interactive software program and a device according to said first aspect of the invention for interactively controlling and accessing said software.

According to a second aspect of the invention there
is provided an interactive software system comprising an
interactive software program adapted to be interactively
controlled by the user and adapted such that a
5   predetermined part of the program is accessible only in
response to a predetermined scanned access code and access
means adapted to scan an access code and allow access to
such predetermined part of the program when a
predetermined access code is scanned.

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Preferably, such access code is a code associated
with a product such as a consumable food or drink product
and preferably such predetermined access code is a code
associated with one or more predetermined products.

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According to a further aspect of the invention there
is provided product packaging or printed material having
a code applied thereto wherein such code is adapted to be
scanned by access means of a device or system of the
20   invention and to correspond to a predetermined access code
which allows access to a predetermined part of a software
program.

Preferably, the control means comprises one or more
25   control levers or buttons. Preferably, the control means
comprises a joypad or joystick. Preferably, the access
means comprises a scanner such as a charge coupled device
(CCD) scanner, most preferably a bar-code scanner.

30   Preferably, the control means and the access means
comprise an integral unit. Thus, preferably the device
comprises a joypad having a built-in or integral bar code
scanner. Preferably, the access means comprises one or
more infra-red or ultrasonic detection sensors.
35   Preferably, the device comprises a microcontroller and/or

software program which controls such sensors. Preferably the device operates such that when an object is detected by such sensors the software program engages the scanner which scans for a bar-code on the surface of the object.

5   Preferably, the device comprises memory storage means so that the resultant data may be stored internally and returned to the computer or video games console running the software for processing upon demand.

10   Preferably, the access is to one or more predetermined parts of the software. Preferably, such access is to pre-programmed features, data or digital objects. Thus the bar-code acts as a key to accessing such features, data or objects.

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          Preferably, the code comprises a bar-code, including but not limited to industry standard product bar-codes such as UPC-A, UPC-E, EAN-13, EAN-8, Codabar, Code 128, and the like. These bar-codes may be found on virtually

20   every retail product world-wide. Typically, the bar-codes are located on the surface of or within the packaging of consumer retail products.

          Thus, it will be seen that the invention provides a

25   system whereby a bar-code associated with a product permits access to specified software.

          Alternatively, the code may be incorporated onto a magnetic strip and the scanner may comprise a

30   corresponding magnetic head scanner.

          Preferably, the device comprises a portable and/or hand-held joypad controller. The basic functions of the joypad may be similar in many respects to conventional

35   joypads having an eight way cross hair controller switch

and several buttons that respond to pre-programmmed functions within the software.

Preferably, the software comprises a video game. The use of bar-code labels in relation to video games' software may be illustrated by the following examples which represent possible functions of predetermined parts of the software in response to a predetermined access code such as a bar-code:

(a) Software, Video, and Audio Authorisation: To activate or authorise video game's software or video programs: for example level by level, by Interval, by number of executions, authorisation of hidden games, hidden levels, and the like.

(b) Digital Object Codes: Allows pre-programmed digital objects to be revealed or permitted to function within a video game, for example game characters, weapons, energy, and the like.

(c) Prize Bar-codes: Act as a key for real prizes concealed within video game's or video programmes. The bar-codes may be hidden on the rear of product labels or issued as card or a scratch card. Prize bar-code coupons may be required to be retained for security purposes.

(d) Bank Notes: Where the bar-code may correspond to a given amount of money thus having many potential uses within video games, for example Monopoly, and the like.

Some simple examples of how the invention may provide interaction between software and product:

(a) Doom style: (First person perspective): Reveal hidden locations. Open doors, Authorisation or Identity cards, New weapons, More energy, Transportation devices, for example Jetpack, Motorcycle. Rooms may contain prize incentives, and the like. Introduce maps and clues by way of bar-codes, and the like.

(b) Who Dunnit's: Bar-codes may give Room access, weapons, maps, clues, and the like. The puzzle may be hard to solve without clues. Rooms may contain prizes that are accessed via the correct bar-codes.

(c) Sports Games: for example, Football, and the like. Collect players or teams by way of picture cards with bar-codes. Add trophies, stadiums by way of bar-codes. Change playing strategy, i.e. Red card = Send off player. Access to different competitions with different trophies, and the like.

(d) Platform Games: Access to levels, Power-ups, Hidden games revealed by way of bar-codes, additional characters, and the like. Prize possibilities, all accessed by bar-codes.

(e) Game Shows (Interactive): Real-time quiz game show to include real prizes. Prizes are input by way of product bar-codes. Game show sponsored by a major product manufacturer/advertiser.

For example, Travel Quiz Game: (typically linked to a fast moving food product). Linked to airlines and holiday companies. Give holidays as prizes.

Complete a jig-saw (many purchases required): Jig-saw pieces are bar-code within a graphic jigsaw piece on rear of a can label.

5   (f)   Car Games: Access new circuits by way of bar-codes, different cars, improved tyres, brakes, bigger engine.

(g)   Monopoly/Cluedo style: Bank notes (bearing bar-codes) enables more properties to be purchased.
10   Property cards allow more properties to be installed (map increased). Community Chest and Chance cards may be in form of supplementary bar-codes. Bar-codes may allow you to change your character in the game.

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(h)   Air Warfare Simulators: Change aircraft, weapons, sensors, radar's, and the like by way of bar-codes.

(j)   Pop Videos (MPEG real-time video): Access to video
20   sequence and access to songs or interviews linked to product bar-codes.

The invention will now be described further by way of example only and with reference to the accompanying
25   drawing which is a schematic view showing operation of a device of the invention.

The invention is particularly, but not exclusively, applicable to electronic game apparatus of the type
30   comprising a microcomputer controlling the display, control button, or other controls by way of which the user can pass instructions to the microcomputer. The microprocessor operates by way of instructions from a software program loaded into its internal memory. The
35   software may be stored in any suitable form such as on

optical compact discs, read only memory cartridge, digital versatile disk, floppy disk, or the like. Alternatively, the software may be accessible via the Internet.

5   The device of the invention is shown in the drawing and comprises a joypad accessory 1 which forms the basis of a key code system for electronic video games whereby the accessory enables a player to experience features in a game not normally accessible, and to enhance those that
10   are accessible, for example extra lives.

        The joypad accessory can read bar-codes 2 from product labels 4 such as labels from tins, boxes, packets, cards, bottles, or the like and from books, magazines, or
15   the like. These bar-codes are scanned by placing the bar-code image directly in front of the scanning head 6. The scanner may engage automatically, or by depressing a control button. This will enable the player to "enter a secret room", "find a hidden game", "change a weapon", or
20   any other game enhancement that has been pre-programmed into the game in order to take advantage of the system. The game enhancements will therefore only be available to purchasers of the product to which the bar-code was attached. The purchasers may collect labels, for example,
25   bearing bar-codes, and swap them for other game bar-codes.

        The joypad has conventional type interactive controls such as buttons 8.

30   It is envisaged that providers of software for electronic games (for example in the form of CD-ROM for electronic game apparatus of the CD-ROM utilising type) would so configure such software that the game played would respond in different ways to bar-codes identifying
35   different products, raising the possibility of joint

promotion or the like agreements between manufacturers of products such as breakfast cereals, and the providers of such software so that, for example, breakfast cereal manufacturers could use in advertising, as a promotional feature, the fact that the bar-code on their product packages could be used in conjunction with a particular games apparatus, the bar-code reading accessory for that apparatus, and particular games for such apparatus, to obtain certain enhancements, and, in return, the breakfast cereal manufacturer would pay an appropriate fee to the software provider. The software provider, in turn, would pay an appropriate fee to the manufacturer of the electronic games apparatus, in order to benefit from addressing the user base of the said electronic games apparatus.

Typically, the joypad accessory will contain a microcontroller or programmable logic array (PLA) which, in operation, will provide the interface between the CCD scanner by way of its associated glue logic, and the microcomputer of the game apparatus. The microcontroller or PLA is typically a protected integrated circuit and cannot be read by unauthorised persons. The microcontroller or PLA may also contain a key which can be interrogated by the software and used to check for a genuine manufacturers' unit.

The reader's attention is directed to all papers and documents which are filed concurrently with or previous to this specification in connection with this application and which are open to public inspection with this specification, and the contents of all such papers and documents are incorporated herein by reference.

All of the features disclosed in this specification (including any accompanying claims, abstract and drawings), and/or all of the steps of any method or process so disclosed, may be combined in any combination, except combinations where at least some of such features and/or steps are mutually exclusive.

Each feature disclosed in this specification (including any accompanying claims, abstract and drawings), may be replaced by alternative features serving the same, equivalent or similar purpose, unless expressly stated otherwise. Thus, unless expressly stated otherwise, each feature disclosed is one example only of a generic series of equivalent or similar features.

The invention is not restricted to the details of the foregoing embodiment(s). The invention extends to any novel one, or any novel combination, of the features disclosed in this specification (including any accompanying claims, abstract and drawings), or to any novel one, or any novel combination, of the steps of any method or process so disclosed.

CLAIMS

1.   A device for interactively controlling and accessing software comprising control means adapted to be activated by the user to control the software and access means adapted to scan an access code and allow access to a predetermined part of the software in response to a predetermined access code.

2.   A device according to Claim 1 further comprising a computer adapted to run an interactive software program.

3.   A device according to either Claim 1 or 2 wherein said access code is a code associated with a consumable food or drink product.

4.   A device according to any preceding claim wherein said access code is a predetermined code associated with one or more predetermined products.

5.   A device according to any preceding claim wherein said control means comprises one or more control levers or buttons.

6.   A device according to Claim 6 wherein said control means comprises a joypad or joystick.

7.   A device according to any preceding claim wherein said access means comprises a charge coupled device (CCD) scanner.

8.   A device according to Claim 7 wherein said scanner is a bar-code scanner.

9.   A device according to any preceding claim wherein said control means and said access means comprise an integral unit.

10.   A device according to Claim 9 wherein said control means comprises a joypad having a built in or integral bar-code scanner.

11.   A device according to any preceding claim wherein said access means comprises one or more infrared or ultrasonic detection sensors.

12.   A device according to any preceding claim wherein said device further comprising a microcontroller and/or software program which controls said sensors.

13.   A device according to any preceding claim wherein said device operates such that when an object is detected by said sensors the software program engages the scanner which scans for a bar-code on the surface of the object.

14.   A device according to any preceding claim further comprising memory storage means so that resultant data may be stored internally and returned to the computer or video game console running the software for processing upon demand.

15.   A device according to any preceding claim wherein access is to one or more predetermined parts of the software.

16.   A device according to Claim 15 wherein access is to predetermined features or data or digital objects.

17.   A device according to any preceding claim wherein said access code comprises a bar-code.

18.   A device according to Claim 17 wherein said bar-code is UPC-A or UPC-E or EAN-13 or EAN-8 or Codabar or Code128.

19.   A device according to Claims 17 or 18 wherein said access code is incorporated onto a magnetic strip and the scanner is a corresponding magnetic head scanner.

5   20.   A device according to any preceding claim wherein said device comprises a portable and/or hand held joypad controller.

21.   A device according to any preceding claim wherein said software comprises a video game.

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22.   An interactive software system comprising an interactive software program adapted to be interactively controlled by the user and adapted such that a predetermined part of the program is accessible only in response to a predetermined scanned access code and access means adapted to scan an access code and allow

15   access to such predetermined part of the program when a predetermined access code is scanned.

23.   Product packaging or printed material having a code applied thereto wherein such code is adapted to be scanned by access means of a device or system of the

20   invention and to correspond to a predetermined access code which allows access to a predetermined part of a software program.

24.   A device, system or product packaging or printed material substantially as hereinbefore described with reference to the description and/or the accompanying

25   figure.

Application No:	GB 9721826.7	Examiner:	K. Sylvan
Claims searched:	1-24	Date of search:	10 March 1999

Patents Act 1977
Search Report under Section 17

Databases searched:

UK Patent Office collections, including GB, EP, WO & US patent specifications, in:

UK Cl (Ed.Q): G4A (AAP,AKS,AUXS)

Int Cl (Ed.6): A63F (9/22) G06F (19/00)

Other: Online: WPI

Documents considered to be relevant:

Category	Identity of document and relevant passage	Relevant to claims
X	US5212368 Epoch. See column 2 line 55 to column 3 line 16.	1,22 at least

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